

LEAD TCLP REPORT
Fabens – Caseta Bridge
Fabens, Texas



Prepared for:
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Date(s) of Inspection:
September 14, 2016

Project # 126-16

LEAD TCLP REPORT

Fabens-Caseta Bridge

A. PURPOSE

ENCON International, Inc., (ENCON) was contracted by Sidney A. Mielke, P.E., Senior Project Manager of Structural Engineering Associates, Inc., to perform testing of building materials to be disposed after demolition of the structure known as the Fabens-Caseta Bridge at Fabens, Texas. ENCON's previous survey of the bridge (December 2014) determined that Lead Paint was present on some of the bridge components. This information is necessary in order for contractors to comply with OSHA regulation 29 CFR 1926.62 Safety and Health Regulations for Construction – Lead, and for EPA Regulation 40 CFR 261 (the Resource, Conservation, and Recovery Act (RCRA) for disposal.

B. BACKGROUND

The Fabens-Caseta Bridge was constructed in 1938 by the Austin Bridge Company of Dallas Texas. The construction consists of Steel I-Beams, concrete (pillars and roadway) and an asphalt apron on the Texas side of the bridge. Associated with the bridge are a few metal and concrete bollards, and a small amount of wood at the north entrance to the bridge. When inspected in 2014, the Fabens-Caseta Bridge was in use as a passageway to and from Mexico via Fabens, Texas. It is now closed to traffic. This single level structure was constructed with concrete on a Steel I-Beam structural frame. In accordance with OSHA Construction regulation 29 CFR 1926.62, where lead exists in any amount, workers must be notified and steps must be taken to protect them from the inherent hazards. The bridge is currently scheduled for demolition.

The Resource Conservation and Recovery Act (RCRA) defines which materials and at what level they are considered hazardous, "Special Waste" or regular waste for disposal. Such items as heavy metals and chemicals deemed toxic or hazardous may be excluded from normal landfill waste.

More recently, environmental goals are to keep materials from going to a landfill by recycling or other means. Reducing and recycling C&D materials conserves landfill space and reduces the environmental impact of producing new materials. Materials that are most desirable for recycling

are metals, which can be re-smelted and reused. Concrete and asphalt can be used for fill material, or recycled by being ground up and reincorporated in new material, if not taken to a landfill.

American Concrete Pavement Association Protocols

Recycling of concrete pavement is a relatively simple process. It involves breaking, removing and crushing concrete from an existing pavement into a material with a specified size and quality.

Crushed concrete may be reused as an aggregate in new Portland cement concrete or any other structural layer. Generally, it is combined with a virgin aggregate when used in new concrete. However, recycled concrete is more often used as aggregate in a sub-base layer.

C. TESTING RESULTS

1. **Laboratory Results.** A Toxic Characteristic Leaching Potential (TCLP) test was performed on building materials comprising the bridge. This test is used to determine if hazardous levels of metals, or other materials, would leach into a landfill (and then possibly into the ground water). The components are typically mixed into a dilute acidic solution in the laboratory to simulate an extended leaching time in the ground. This mixture is then placed into a sealed extraction vessel that is placed on a rotary agitation apparatus for 18 hours. The liquid solution is then separated and tested, usually with inductively coupled plasma-atomic emission spectrometry (ICP-AES) to determine levels of trace elements, including metals in solution.
2. Four samples were collected and sent to an independent third-party analytical laboratory for TCLP analysis. The materials sampled included structural steel (I-beams), hand rails, concrete, and wood. The lab results indicated high levels of Arsenic, Chromium, and Lead. Based on this lab data, all of the materials can be recycled with the exception of a small amount of wood and several metal bollards filled with concrete. The wood consisted of two each eight-foot long 2"x6" pieces of painted lumber. The metal bollards could be recycled depending on the recycler, but are filled with concrete. The results of the testing can be found in attachment B. If bridge demolition materials are to be disposed in a landfill, EPA disposal requirements will be required to be followed. ENCON's test results would preclude these materials from a Construction and Demolition (C & D) Landfill.

3. For OSHA worker protection, care shall be taken for components that contain levels of lead or other heavy metals which could create lead dust or lead-contaminated soil hazards if the paint is turned into dust by abrasion, scraping, or sanding. Disposal of the lead-containing components will require compliance with the pertinent RCRA regulations if it.

D. CONCLUSIONS

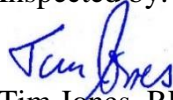
1. Specific Conclusions.

- The metal components of the bridge can be recycled at an authorized recycler (such as El Paso Iron and Metal Company, or others).
- The concrete and asphalt materials may be recycled or disposed at EPA authorized landfills (such as Camino Real Environmental Center, Sunland Park, New Mexico, or others).


2. General Conclusions.

For OSHA worker protection, care shall be taken for components that contain levels of lead or other heavy metals which could create lead dust or lead-contaminated soil hazards if the paint is turned into dust by abrasion, scraping, or sanding. Disposal of the lead-containing components will require compliance with the pertinent RCRA regulations if it is not recycled.

Inspected by:


Tim Jones, RPIH
Lead Risk Assessor

Reviewed by:


Alex Woelper, P.E.
Project Manager

Attachments:

- A. Bridge Photographs
- B. TCLP Results

ATTACHMENT 1

Bridge Photographs



West side of the bridge, looking south.



Underside of bridge (typ.) looking North



Concrete filled bollards



Bridge looking south to Mexico
Fence demarcates end of U.S. property

ATTACHMENT 2

TCLP Results

Summary Report

Tim Jones
Encon International Inc.
7307 Remcon Circle
Suite 103
El Paso, TX 79902

Report Date: September 21, 2016

Work Order: 16091608



Project Location: Fabens/Tornillo, TX
Project Name: Sea Fabens Bridge
Project Number: 126-16

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
428258	Concrete, Asphalt, Wood	solid	2016-09-13	10:00	2016-09-16
428259	I-Beams, Hand Rails	solid	2016-09-13	11:00	2016-09-16
428260	Concrete	solid	2016-09-13	11:30	2016-09-16
428261	Asphalt	solid	2016-09-13	12:30	2016-09-16

Sample: 428258 - Concrete, Asphalt, Wood

Param	Flag	Result	Units	RL
Total Silver		<0.500	mg/Kg	0.5
Total Arsenic		5.69	mg/Kg	2
Total Barium		47.3	mg/Kg	1
Total Cadmium		<0.500	mg/Kg	0.5
Total Chromium		4.24	mg/Kg	0.5
Total Mercury		<0.0250	mg/Kg	0.025
Total Lead		13.0	mg/Kg	1
Total Selenium		<2.00	mg/Kg	2

Sample: 428259 - I-Beams, Hand Rails

Param	Flag	Result	Units	RL
Total Silver		<0.500	mg/Kg	0.5
Total Arsenic		46.0	mg/Kg	2
Total Barium		1.94	mg/Kg	1

continued ...

sample 428259 continued ...

Param	Flag	Result	Units	RL
Total Cadmium		<0.500	mg/Kg	0.5
Total Chromium		373	mg/Kg	0.5
Total Mercury		<0.0250	mg/Kg	0.025
Total Lead		883	mg/Kg	1
Total Selenium		<2.00	mg/Kg	2

Sample: 428260 - Concrete

Param	Flag	Result	Units	RL
Total Silver		<0.500	mg/Kg	0.5
Total Arsenic		4.95	mg/Kg	2
Total Barium		77.2	mg/Kg	1
Total Cadmium		<0.500	mg/Kg	0.5
Total Chromium		9.85	mg/Kg	0.5
Total Mercury		0.156	mg/Kg	0.025
Total Lead		31.1	mg/Kg	1
Total Selenium		<2.00	mg/Kg	2

Sample: 428261 - Asphalt

Param	Flag	Result	Units	RL
Total Silver		<0.500	mg/Kg	0.5
Total Arsenic		<2.00	mg/Kg	2
Total Barium		18.4	mg/Kg	1
Total Cadmium		<0.500	mg/Kg	0.5
Total Chromium		8.19	mg/Kg	0.5
Total Mercury		<0.0250	mg/Kg	0.025
Total Lead		4.18	mg/Kg	1
Total Selenium		<2.00	mg/Kg	2



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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Tim Jones
 Encon International Inc.
 7307 Remcon Circle
 Suite 103
 El Paso, TX, 79902

Report Date: September 21, 2016

Work Order: 16091608



Project Location: Fabens/Tornillo, TX
 Project Name: Sea Fabens Bridge
 Project Number: 126-16

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
428258	Concrete, Asphalt, Wood	solid	2016-09-13	10:00	2016-09-16
428259	I-Beams, Hand Rails	solid	2016-09-13	11:00	2016-09-16
428260	Concrete	solid	2016-09-13	11:30	2016-09-16
428261	Asphalt	solid	2016-09-13	12:30	2016-09-16

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TraceAnalysis, Inc. uses the attached chain of custody (COC) as the laboratory check-in documentation which includes sample receipt, temperature, sample preservation method and condition, collection date and time, testing requested, company, sampler, contacts and any special remarks.

This report consists of a total of 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Blair Leftwich

Dr. Blair Leftwich, Director
James Taylor, Assistant Director
Johnny Grindstaff, Operations Manager

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Case Narrative

Samples for project Sea Fabens Bridge were received by TraceAnalysis, Inc. on 2016-09-16 and assigned to work order 16091608. Samples for work order 16091608 were received intact at a temperature of 25.4 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Ag, Total	S 6010C	112548	2016-09-16 at 12:30	132810	2016-09-19 at 09:36
As, Total	S 6010C	112548	2016-09-16 at 12:30	132810	2016-09-19 at 09:36
Ba, Total	S 6010C	112548	2016-09-16 at 12:30	132810	2016-09-19 at 09:36
Cd, Total	S 6010C	112548	2016-09-16 at 12:30	132810	2016-09-19 at 09:36
Cr, Total	S 6010C	112548	2016-09-16 at 12:30	132810	2016-09-19 at 09:36
Hg, Total	S 7471 B	112599	2016-09-20 at 13:45	132855	2016-09-21 at 12:03
Hg, Total	S 7471 B	112599	2016-09-20 at 13:45	132858	2016-09-21 at 12:03
Pb, Total	S 6010C	112548	2016-09-16 at 12:30	132810	2016-09-19 at 09:36
Se, Total	S 6010C	112548	2016-09-16 at 12:30	132810	2016-09-19 at 09:36

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 16091608 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 428258 - Concrete, Asphalt, Wood

Laboratory: Lubbock	Analytical Method: S 6010C	Prep Method: S 3050B
Analysis: Total 8 Metals	Date Analyzed: 2016-09-19	Analyzed By: RR
QC Batch: 132810	Sample Preparation: 2016-09-16	Prepared By: RR
Prep Batch: 112548		
Laboratory: Lubbock	Analytical Method: S 7471 B	Prep Method: N/A
Analysis: Total 8 Metals	Date Analyzed: 2016-09-21	Analyzed By: TP
QC Batch: 132855	Sample Preparation: 2016-09-21	Prepared By: TP
Prep Batch: 112599		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Silver	u	2,3,4	<0.500	mg/Kg	1	0.500
Total Arsenic		2,3,4	5.69	mg/Kg	1	2.00
Total Barium		2,3,4	47.3	mg/Kg	1	1.00
Total Cadmium	u	2,3,4	<0.500	mg/Kg	1	0.500
Total Chromium		2,3,4	4.24	mg/Kg	1	0.500
Total Mercury	u	1,2,3,4	<0.0250	mg/Kg	1	0.0250
Total Lead		2,3,4	13.0	mg/Kg	1	1.00
Total Selenium	u	2,3,4	<2.00	mg/Kg	1	2.00

Sample: 428259 - I-Beams, Hand Rails

Laboratory: Lubbock	Analytical Method: S 6010C	Prep Method: S 3050B
Analysis: Total 8 Metals	Date Analyzed: 2016-09-19	Analyzed By: RR
QC Batch: 132810	Sample Preparation: 2016-09-16	Prepared By: RR
Prep Batch: 112548		
Laboratory: Lubbock	Analytical Method: S 7471 B	Prep Method: N/A
Analysis: Total 8 Metals	Date Analyzed: 2016-09-21	Analyzed By: TP
QC Batch: 132855	Sample Preparation: 2016-09-21	Prepared By: TP
Prep Batch: 112599		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Silver	u	2,3,4	<0.500	mg/Kg	1	0.500
Total Arsenic		2,3,4	46.0	mg/Kg	1	2.00
Total Barium		2,3,4	1.94	mg/Kg	1	1.00
Total Cadmium	u	2,3,4	<0.500	mg/Kg	1	0.500
Total Chromium		2,3,4	373	mg/Kg	1	0.500

continued ...

sample 428259 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Mercury	u	1,2,3,4	<0.0250	mg/Kg	1	0.0250
Total Lead		2,3,4	883	mg/Kg	1	1.00
Total Selenium	u	2,3,4	<2.00	mg/Kg	1	2.00

Sample: 428260 - Concrete

Laboratory: Lubbock						
Analysis: Total 8 Metals			Analytical Method: S 6010C			Prep Method: S 3050B
QC Batch: 132810			Date Analyzed: 2016-09-19			Analyzed By: RR
Prep Batch: 112548			Sample Preparation: 2016-09-16			Prepared By: RR
Laboratory: Lubbock						
Analysis: Total 8 Metals			Analytical Method: S 7471 B			Prep Method: N/A
QC Batch: 132855			Date Analyzed: 2016-09-21			Analyzed By: TP
Prep Batch: 112599			Sample Preparation: 2016-09-21			Prepared By: TP

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Silver	u	2,3,4	<0.500	mg/Kg	1	0.500
Total Arsenic		2,3,4	4.95	mg/Kg	1	2.00
Total Barium		2,3,4	77.2	mg/Kg	1	1.00
Total Cadmium	u	2,3,4	<0.500	mg/Kg	1	0.500
Total Chromium		2,3,4	9.85	mg/Kg	1	0.500
Total Mercury		1,2,3,4	0.156	mg/Kg	1	0.0250
Total Lead		2,3,4	31.1	mg/Kg	1	1.00
Total Selenium	u	2,3,4	<2.00	mg/Kg	1	2.00

Sample: 428261 - Asphalt

Laboratory: Lubbock						
Analysis: Total 8 Metals			Analytical Method: S 6010C			Prep Method: S 3050B
QC Batch: 132810			Date Analyzed: 2016-09-19			Analyzed By: RR
Prep Batch: 112548			Sample Preparation: 2016-09-16			Prepared By: RR
Laboratory: Lubbock						
Analysis: Total 8 Metals			Analytical Method: S 7471 B			Prep Method: N/A
QC Batch: 132858			Date Analyzed: 2016-09-21			Analyzed By: TP
Prep Batch: 112599			Sample Preparation: 2016-09-21			Prepared By: TP

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Total Silver	U	2,3,4	<0.500	mg/Kg	1	0.500
Total Arsenic	U	2,3,4	<2.00	mg/Kg	1	2.00
Total Barium		2,3,4	18.4	mg/Kg	1	1.00
Total Cadmium	U	2,3,4	<0.500	mg/Kg	1	0.500
Total Chromium		2,3,4	8.19	mg/Kg	1	0.500
Total Mercury	U	1,2,3,4	<0.0250	mg/Kg	1	0.0250
Total Lead		2,3,4	4.18	mg/Kg	1	1.00
Total Selenium	U	2,3,4	<2.00	mg/Kg	1	2.00

Method Blanks

Method Blank (1) QC Batch: 132810

QC Batch: 132810 Date Analyzed: 2016-09-19 Analyzed By: RR
Prep Batch: 112548 QC Preparation: 2016-09-16 Prepared By: PM

Parameter	Flag	Cert	MDL Result	Units	RL
Total Silver		2,3,4	<0.0356	mg/Kg	0.5
Total Arsenic		2,3,4	<0.568	mg/Kg	2
Total Barium		2,3,4	<0.105	mg/Kg	1
Total Cadmium		2,3,4	<0.0303	mg/Kg	0.5
Total Chromium		2,3,4	<0.118	mg/Kg	0.5
Total Lead		2,3,4	<0.140	mg/Kg	1
Total Selenium		2,3,4	<0.451	mg/Kg	2

Method Blank (1) QC Batch: 132855

QC Batch: 132855 Date Analyzed: 2016-09-21 Analyzed By: TP
Prep Batch: 112599 QC Preparation: 2016-09-20 Prepared By: TP

Parameter	Flag	Cert	MDL Result	Units	RL
Total Mercury		1,2,3,4	<0.00374	mg/Kg	0.025

Method Blank (1) QC Batch: 132858

QC Batch: 132858 Date Analyzed: 2016-09-21 Analyzed By: TP
Prep Batch: 112599 QC Preparation: 2016-09-20 Prepared By: TP

Parameter	Flag	Cert	MDL Result	Units	RL
Total Mercury		1,2,3,4	<0.00374	mg/Kg	0.025

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 132810
Prep Batch: 112548

Date Analyzed: 2016-09-19
QC Preparation: 2016-09-16

Analyzed By: RR
Prepared By: PM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver		2,3,4	12.2	mg/Kg	1	12.5	<0.0356	98	85 - 115
Total Arsenic		2,3,4	50.2	mg/Kg	1	50.0	<0.568	100	85 - 115
Total Barium		2,3,4	96.4	mg/Kg	1	100	<0.105	96	85 - 115
Total Cadmium		2,3,4	24.7	mg/Kg	1	25.0	<0.0303	99	85 - 115
Total Chromium		2,3,4	10.3	mg/Kg	1	10.0	<0.118	103	85 - 115
Total Lead		2,3,4	45.5	mg/Kg	1	50.0	<0.140	91	85 - 115
Total Selenium		2,3,4	43.4	mg/Kg	1	50.0	<0.451	87	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silver		2,3,4	13.1	mg/Kg	1	12.5	<0.0356	105	85 - 115	7	20
Total Arsenic		2,3,4	48.3	mg/Kg	1	50.0	<0.568	97	85 - 115	4	20
Total Barium		2,3,4	91.2	mg/Kg	1	100	<0.105	91	85 - 115	6	20
Total Cadmium		2,3,4	23.4	mg/Kg	1	25.0	<0.0303	94	85 - 115	5	20
Total Chromium		2,3,4	9.76	mg/Kg	1	10.0	<0.118	98	85 - 115	5	20
Total Lead		2,3,4	43.7	mg/Kg	1	50.0	<0.140	87	85 - 115	4	20
Total Selenium		2,3,4	43.6	mg/Kg	1	50.0	<0.451	87	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 132855
Prep Batch: 112599

Date Analyzed: 2016-09-21
QC Preparation: 2016-09-20

Analyzed By: TP
Prepared By: TP

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury		1,2,3,4	0.247	mg/Kg	1	0.250	<0.00374	99	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec. Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury		1,2,3,4	0.244	mg/Kg	1	0.250	<0.00374	98	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 132858
Prep Batch: 112599

Date Analyzed: 2016-09-21
QC Preparation: 2016-09-20

Analyzed By: TP
Prepared By: TP

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec. Rec.	Rec. Limit
Total Mercury		1,2,3,4	0.247	mg/Kg	1	0.250	<0.00374	99	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec. Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury		1,2,3,4	0.244	mg/Kg	1	0.250	<0.00374	98	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 427941

QC Batch: 132810
Prep Batch: 112548

Date Analyzed: 2016-09-19
QC Preparation: 2016-09-16

Analyzed By: RR
Prepared By: PM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver		2,3,4	11.4	mg/Kg	1	12.5	<0.0356	91	75 - 125
Total Arsenic		2,3,4	49.8	mg/Kg	1	50.0	<0.568	100	75 - 125
Total Barium		2,3,4	389	mg/Kg	1	100	308	81	75 - 125
Total Cadmium		2,3,4	20.1	mg/Kg	1	25.0	<0.0303	80	75 - 125
Total Chromium		2,3,4	8.26	mg/Kg	1	10.0	<0.118	83	75 - 125
Total Lead		2,3,4	42.3	mg/Kg	1	50.0	<0.140	85	75 - 125
Total Selenium	Qs	Qs	36.5	mg/Kg	1	50.0	<0.451	73	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silver		2,3,4	11.5	mg/Kg	1	12.5	<0.0356	92	75 - 125	1	20
Total Arsenic		2,3,4	49.2	mg/Kg	1	50.0	<0.568	98	75 - 125	1	20
Total Barium		2,3,4	392	mg/Kg	1	100	308	84	75 - 125	1	20
Total Cadmium		2,3,4	22.8	mg/Kg	1	25.0	<0.0303	91	75 - 125	13	20
Total Chromium		2,3,4	9.23	mg/Kg	1	10.0	<0.118	92	75 - 125	11	20
Total Lead		2,3,4	42.6	mg/Kg	1	50.0	<0.140	85	75 - 125	1	20
Total Selenium		2,3,4	39.5	mg/Kg	1	50.0	<0.451	79	75 - 125	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 428260

QC Batch: 132855
Prep Batch: 112599

Date Analyzed: 2016-09-21
QC Preparation: 2016-09-20

Analyzed By: TP
Prepared By: TP

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury		1,2,3,4	0.430	mg/Kg	1	0.250	0.156	110	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury		1,2,3,4	0.446	mg/Kg	1	0.250	0.156	116	80 - 120	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 428261

QC Batch: 132858
Prep Batch: 112599

Date Analyzed: 2016-09-21
QC Preparation: 2016-09-20

Analyzed By: TP
Prepared By: TP

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury		1,2,3,4	0.267	mg/Kg	1	0.250	<0.00374	107	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury		1,2,3,4	0.247	mg/Kg	1	0.250	<0.00374	99	80 - 120	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Calibration Standards

Standard (ICV-1)

QC Batch: 132810

Date Analyzed: 2016-09-19

Analyzed By: RR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silver		2,3,4	mg/Kg	0.125	0.126	101	90 - 110	2016-09-19
Total Arsenic		2,3,4	mg/Kg	1.00	1.05	105	90 - 110	2016-09-19
Total Barium		2,3,4	mg/Kg	1.00	0.985	98	90 - 110	2016-09-19
Total Cadmium		2,3,4	mg/Kg	1.00	1.04	104	90 - 110	2016-09-19
Total Chromium		2,3,4	mg/Kg	1.00	0.973	97	90 - 110	2016-09-19
Total Lead		2,3,4	mg/Kg	1.00	0.961	96	90 - 110	2016-09-19
Total Selenium		2,3,4	mg/Kg	1.00	0.965	96	90 - 110	2016-09-19

Standard (CCV-1)

QC Batch: 132810

Date Analyzed: 2016-09-19

Analyzed By: RR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silver		2,3,4	mg/Kg	0.125	0.124	99	90 - 110	2016-09-19
Total Arsenic		2,3,4	mg/Kg	1.00	1.05	105	90 - 110	2016-09-19
Total Barium		2,3,4	mg/Kg	1.00	0.994	99	90 - 110	2016-09-19
Total Cadmium		2,3,4	mg/Kg	1.00	1.06	106	90 - 110	2016-09-19
Total Chromium		2,3,4	mg/Kg	1.00	0.965	96	90 - 110	2016-09-19
Total Lead		2,3,4	mg/Kg	1.00	0.989	99	90 - 110	2016-09-19
Total Selenium		2,3,4	mg/Kg	1.00	0.949	95	90 - 110	2016-09-19

Standard (CCV-1)

QC Batch: 132855

Date Analyzed: 2016-09-21

Analyzed By: TP

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		1,2,3,4	mg/L	0.0100	0.0102	102	90 - 110	2016-09-21

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	L-A-B	L2418	Lubbock
2	Kansas	Kansas E-10317	Lubbock
3	NELAP	T104704219-16-12	Lubbock
4		2015-066	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

TraceAnalysis, Inc.
 email: lab@traceanalysis.com

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 Lubbock, Texas 79424
 Tel (806) 794-1296
 Fax (806) 794-1298
 1 (800) 378-1296

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 Midland, Texas 79703
 Tel (432) 689-6301
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200 East Sunset Rd., Suite E
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BioAqueatic Testing
 2507 Mayes Rd., Ste 100
 Carrollton, Texas 75006
 Tel (972) 242-7750

Company Name: **ENCON International, Inc.** Phone #: **915.833.3740**

Address: **7307 Remcon Circle, El Paso, TX 79912** Fax #:

Contact Person: **Tim Jones** E-mail: **encon2@enconinternational.com**

Invoice to: **ENCON International, Inc.**

Project #: **126-16** Project Name: **SEA Fabens Bridge**

Project Location: **Fabens/Tornillo, TX** Sampler Signature: *[Signature]*

ANALYSIS REQUEST
 (Circle or Specify Method No.)

LAB #	FIELD CODE	# CONTAINERS	VOLUME/AMOUNT	MATRIX	PRESERVATIVE METHOD	SAMPLING DATE	TIME	Turn Around Time if different from standard
428258	Concrete, Asphalt, wood	1		WATER	HCL	9/13	10:00	3
259	I-Beams, Hand Rails	1		AIR	HNO ₃	9/13	11:00	3
260	Concrete	1		SOIL	H ₂ SO ₄	9/13	11:30	3
261	Asphalt	1		SLUDGE	NONE	9/13	12:30	3

REMARKS:

3 DAY TAT

Dry Weight Basis Required

TRRP Report Required

Check if Special Reporting Limits Are Needed

NO ILE

Carrier # 2549800015

RE-LAB USE ONLY

Intact Y N

Headspace Y/N Y N

Log-in Review Y N

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Rubio	ENCON	9/15	3:26	DJ	ENCON	9-15-16	15:34
DJ	ENCON	9-15-16	16:30	Diana	TH	9/16	9:30
				Ward	MRS	9/16	9:30